

IN THE CLAIMS:

D1
16. (Twice amended) A microscope comprising:
two objectives between which a light-transmitting specimen is arranged;
said objectives having at least substantially identical optical characteristics; and
at least one of said two objectives being followed by a mirror for reflecting light
transmitted through the specimen back into itself exactly.

D2
34. (Once amended) A microscope comprising:
two objectives between which a light-transmitting specimen is arranged;
said objectives having at least substantially identical optical characteristics;
and
at least one of said two objectives being followed by a phase-conjugating
mirror for reflecting light transmitted through the specimen back into itself exactly with
respect to direction and phase front; and
a detector for receiving reflected specimen fluorescent radiation from the light
transmitting specimen.

Please add the following new claim:

35. (New) A confocal laser scanning microscope for examining a light transmitting specimen comprising:

a laser for providing excitation light to the light transmitting specimen to induce fluorescence in the specimen whereupon the excitation light and the fluorescence is transmitted through the specimen;

two objectives between which the light-transmitting specimen is arranged;

a first pinhole diaphragm located between the laser and the objectives;

said objectives having at least substantially identical optical characteristics;

at least one of said two objectives being followed by an optically adaptive mirror or phase conjugating mirror for reflecting the excitation light and the fluorescence transmitted through the specimen back into the specimen exactly to improve contrast;

a detector for receiving specimen fluorescent radiation from the light transmitting specimen;

a second pinhole diaphragm located between the objectives and the detector.